

Amendments to the Drawing Figures:

The attached drawing sheets include proposed changes to FIGs. 1-2 and replace the original sheets including FIGs 1-2.

Attachment: Replacement Sheets.

REMARKS/DISCUSSION OF ISSUES

By this Amendment, Applicants amend the Title and the drawings. Applicants also amend claims 1, 8 and 9, delete claims 10-12 without disclaimer of the underlying subject matter or prejudice against future prosecution, and add claims 13-17. Accordingly, claims 1-9 and 13-17 remain pending in the application.

Applicants thank the Examiner for acknowledging the claim for priority and receipt of certified copies of all the priority documents.

Claims 1 and 8 are amended for non-statutory reasons, to replace European-style claim phraseology with American-style claim language. The claims are not narrowed in scope and no new matter is added. Claim 9 is rewritten in independent form.

35 U.S.C. § 101

The Office Action rejects claim 12 under 35 U.S.C. § 101. While not conceding the validity of the rejection of claim 12, by this Amendment Applicants cancel claim 12 without disclaimer of the underlying subject matter or prejudice against future prosecution. Accordingly, Applicants respectfully subject that the rejection of claim 12 under 35 U.S.C. § 101 is moot.

CLAIM OBJECTIONS

The Office Action objects to claims 9-12 as supposedly failing to further limit the subject matter of a previous claim. While not conceding the validity of the objections, by this Amendment Applicants cancel claims 10-12 without disclaimer of the underlying subject matter or prejudice against future prosecution. Accordingly, Applicants respectfully subject that the objections to claims 10-12 is moot.

For clarity, claim 9 has been rewritten to be in independent form and no longer depends from claim 1. Since the phrase “according to the preamble of claim 1” has been replaced by the actual preamble of claim 1, Applicants respectfully submit that amended claim 9 is of identical scope to the original claim 9.

Applicants respectfully submit that it is clearly apparent that claim 9 is of different scope than any of the preceding claims 1-8, as all of the claims 1-8 include a processing apparatus, functional units, etc. while claim 9 is drawn to just an instruction set, and therefore does not include these components.

Accordingly, Applicants respectfully request that the objection to claim 9 be withdrawn.

DRAWING OBJECTIONS

The Office Action objects to FIGs. 1 and 2 as not including “suitable meaningful legends.”

By the Amendment, Applicants amend claims 1 and 2 to replace the abbreviations with the appropriate legends. Therefore amended FIGs, 1 and 2 are deemed compliant with 37 C.F.R. § 1.83(a).

The Office Action also objects to the drawings as supposedly failing to show features of claims 9-12. While not conceding the validity of the objections, by this Amendment Applicants cancel claims 10-12 without disclaimer of the underlying subject matter or prejudice against future prosecution. Accordingly, Applicants respectfully subject that the objections to the drawings with respect to claims 10-12 are moot.

With respect to claim 9, the Office Action states that the drawings fail to show an instruction set.

Applicants respectfully disagree.

FIG. 4 shows an instruction set 401.

Accordingly, Applicants respectfully request that the objections to the drawings be withdrawn.

35 U.S.C. §§ 102 and 103

The Office Action rejects claims: claims 1-4 and 6-12 under 35 U.S.C. § 102 over Slavenburg U.S. Patent 6,122,722 (“Slavenburg”); claim 5 under 35 U.S.C. § 103 over Slavenburg in view of Hampapuram et al. U.S. Patent 5,787,302

(“Hampapuram”); claims 1-4 and 6-12 under 35 U.S.C. § 102 over Mehra U.S. Patent 5,974,537 (“Mehra”); and claim 5 under 35 U.S.C. § 103 over Mehra in view of Hampapuram.

Applicants respectfully traverse these rejections for at least the following reasons.

Claim 1

Among other things, in the processing apparatus of claim 1, each issue slot comprises a plurality of functional units.

Applicants respectfully submit that neither Slavenburg nor Mehra discloses such a feature.

Slavenburg discloses a plurality of issue slots in FIG. 4, and a plurality of functional units in FIG. 3. However, Slavenburg does not disclose that each issue slot comprises a plurality of functional units. Instead, in Slavenburg a pair of switching matrices 401, 402 are provided for multiplexing the issue slots among various functional units.

So it is not possible for Slavenburg to disclose the processing apparatus of claim 1.

Meanwhile, the Office Action cites elements 321-327 in FIG. 3 of Mehra as corresponding to the recited issue slots, and elements 331-337 as corresponding to the recited functional units.

The Office Action fails to cite anything at all in Mehra which discloses that each issue slot comprises a plurality of functional units. Indeed, it is apparent from inspection of FIG. 3 that each issue slot has a single functional unit, not a plurality of functional units.

So it is not possible for Mehra to disclose the processing apparatus of claim 1.

Also among other things, the processing apparatus of claim 1 includes a dedicated issue slot arranged for loading an immediate value in dependence upon a dedicated instruction comprising the immediate value.

Applicants respectfully submit that neither Slavenburg nor Mehra discloses such a combination of features.

The Office Action states that Slavenburg discloses such features in conjunction with the CONST Type Slot 430 and CONST unit. However, the CONST unit does not load an immediate value. Instead, it loads a binary value which is a concatenation of the opcode fields of the issue slot in which a CO unit operation was issued. Clearly, this is not an immediate value.

So, again, it is not possible for Slavenburg to disclose the processing apparatus of claim 1.

Meanwhile, the Office Action states that Mehra discloses such features in conjunction with the CONST Type Slot 430 and CONST unit. However, the Office Action fails to cite anything in Mehra that discloses a dedicated issue slot arranged for loading an immediate value in dependence upon a dedicated instruction comprising the immediate value.

So, again, it is not possible for Mehra to disclose the processing apparatus of claim 1.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 1 is patentable over the cited prior art.

Claims 2-4 and 6-7

Claims 2-4 and 6-7 depend from claim 1 and are deemed patentable for at least the reasons set forth above with respect to claim 1.

Also, the processing apparatus of claim 3 includes a dedicated register file for storing the immediate value, the dedicated register file being accessible by the dedicated issue slot. Meanwhile, inspection of FIG. 2 of Slavenburg and FIG. 4 of Mehra reveals that the constant instructions of each reference includes a destination register, and therefore it is clear that there is no dedicated register file.

Claim 8

Among other things, the method of claim 8 includes: (a) processing data retrieved from the register file based on control signals generated from a set of instructions being executed in parallel, using a plurality of issue slots controlled by a set of control words being generated from the set of instructions; and wherein each issue slot comprises a plurality of functional unit; and (b) loading an immediate value

into a dedicated issue slot in dependence upon a dedicated instruction comprising the immediate value.

As explained above with respect to claim 1, neither Slavenburg nor Mehra discloses these features.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 8 is patentable over the cited prior art.

Claim 9

Among other things, the instruction set of claim 9 includes a dedicated instruction having an immediate value, which dedicated instruction when executed by a dedicated issue slot causes the dedicated issue slot to load the immediate value.

As explained above with respect to claim 1, neither Slavenburg nor Mehra discloses a dedicated instruction having an immediate value, which dedicated instruction when executed by a dedicated issue slot causes the dedicated issue slot to load the immediate value.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 9 is patentable over the cited prior art.

NEW CLAIMS 13-17

New claims 13-15 depend from claim 1, and new claims 16-17 depend from claim 8, and are deemed patentable over the cited prior art for at least the reasons set forth above with respect to claims 1 and 8, respectively, and for the following additional reasons.

Among other things, in claims 13 and 16 the dedicated issue slot is controlled to load an immediate value by a control word consisting of the immediate value. neither Slavenburg nor Mehra discloses any control word consisting of an immediate value.

Also among other things, in claims 14 and 15 the dedicated issue slot comprises a single functional unit arranged for only executing the dedicated instruction, and the dedicated register file can be written to only by the single functional unit of the dedicated issue slot. Neither Slavenburg nor Mehra

discloses any such features. Also, in claim the single functional unit of the dedicated issue slot can only write to the dedicated register file. Again, neither Slavenburg nor Mehra discloses any such feature.

CONCLUSION

In view of the foregoing explanations, Applicants respectfully request that the Examiner reconsider and reexamine the present application, allow claims 1-9 and 13-17 and pass the application to issue. In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Kenneth D. Springer (Reg. No. 39,843) at (571) 283.0720 to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment (except for the issue fee) to Deposit Account No. 50-0238 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17, particularly extension of time fees.

Respectfully submitted,

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